

Investigating Map Reading in Lab & Online User Experiments

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Outline

1. Background
2. Experimental Design
3. Method
4. Results
5. Discussion
6. Conclusion

Background

Cultural differences in cognition:

- East vs West
- Global vs Local

Does this apply in cartography?

- Adaptive maps?

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Chua, Boland & Nisbett 2005, p. 12630

Experimental Design

- 2 participant groups – Australian & Chinese
- 2 tasks – Cognitive style and map reading
- 2 stimuli sets – Global & Local
- ≥ 40 participants for each factor
- ≥ 160 participants in total
 1. Demographic questionnaire
 2. Tasks

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But then...

COVID-19

Method – Recruitment

Australian data collected online

- Prolific - Demographic screening
- Qualtrics - Screening study
- £0.25 (US\$0.45)

Method – Experiment

Australian data collected online

- Qualtrics - Hardware testing
- Hypothesis - Cognitive testing
- £9 (US\$12.50)



Results – Experiment

Cognitive Test

Australia
SD=216 ms

China
SD=166 ms

Map Reading Task

Iconic

Australia
SD=388 ms

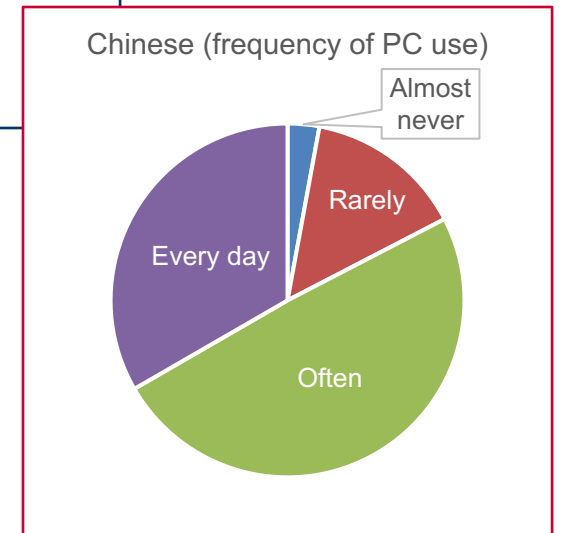
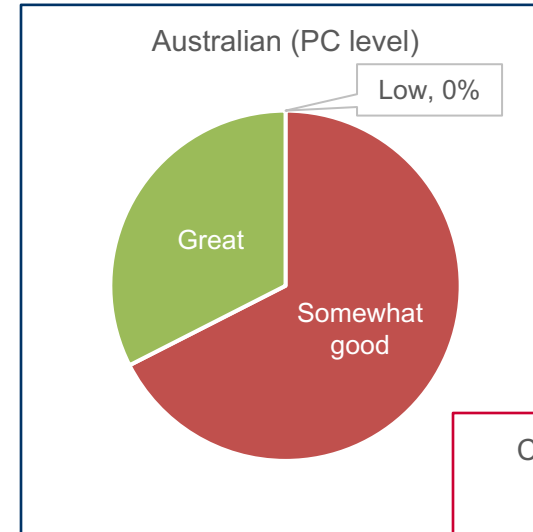
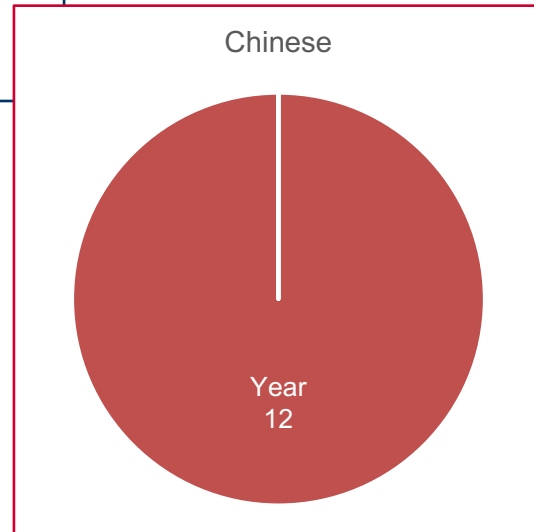
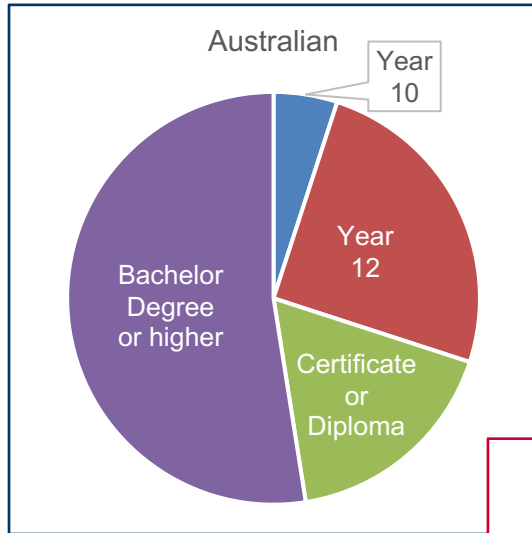
China
SD=184 ms

Schematic

Australia
SD=456 ms

China
SD=399 ms

Results – Demographic



Discussion – Online Collection

Advantages

- Diverse participants
- Able to screen participants
- Delivery through pandemic

Disadvantages

- Differing demographics
- No eye-tracking data
- Less controlled environment

Conclusion

- Online methods are valuable in pandemic
- Need a lot of user testing
- Data from both methods can be compared
- Balance between comparability and representativeness

References

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Questions?